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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,990	04/20/2005	Kenji Suzuki	270573US0PCT	6522
22850	7590	04/15/2010		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
BERMAN, SUSAN W				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
04/15/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/531,990

**Applicant(s)**

SUZUKI ET AL.

**Examiner**

/Susan W. Berman/

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-14, 23-27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-14, 23-27 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Response to Arguments***

Applicant's arguments filed 01-29-2010 have been fully considered but they are not persuasive.

Applicant argues that the evidence of record proves that the sequence of crosslinking and molding is critical. This argument is not persuasive for the following reasons. The instant claims are drawn to a molded article. While the claims recite a product made by the recited process, it is the product that is claimed, not the process. Therefore, the issue is whether the disclosed product has the same properties as the instantly claimed product. The Office is not asserting that J '835 teaches the process of molding followed by crosslinking, the Office is asserting that it is reasonable to expect that the properties of the molded article obtained from a composition as claimed would be the same regardless of the sequence of molding and irradiation employed to obtain the molded article from the composition. The comparative evidence relied upon and presented in the Suzuki Declaration filed 01-09-2008 is for a composition different from the composition disclosed by J '835. Specifically the comparative example contains polyethylene instead of polypropylene as the polyolefin resin (II). The block copolymer (I)-1 is representative of the disclosure of J '835 and of the block copolymer (I) set forth in the instant claims. J '835 discloses compositions comprising a styrene/p-methylstyrene-conjugated diene block copolymer and polypropylene. With respect to applicant's argument that it is not the polypropylene or polyethylene portion of the block copolymer that undergoes crosslinking to change the properties of the molded article, the block copolymer disclosed by J '835 and the block copolymer instantly claimed do not contain propylene or ethylene monomer units. The block copolymers are obtained from styrene monomers, alkylstyrene monomers, and conjugated dienes. The block copolymers

are mixed with a propylene copolymer in the disclosure of J '835 or with a polyolefin as recited in instant claim 7 in the instantly recited compositions. The compositions to be crosslinked by exposure to radiation in the prior art and in the instant claims comprise the styrene-conjugated diene block copolymers comprising alkyl styrene crosslinkable units and the polyolefin. Comparative Examples 7-12 in the instant specification are not representative of the disclosure of J '835 because the block copolymers do not contain units derived from alkylstyrene monomers, as do the block copolymers disclosed by J '835. J '835, in paragraph [0017] discloses a very small number of monomers comprising the block copolymers and, although styrene and  $\alpha$ -methyl styrene are taught as being preferred, p-methylstyrene, t-butyl styrene, divinylstyrene are also clearly taught as suitable styrene monomers among a very small group of suitable aromatic vinyl compounds. Applicant is reminded that a prior art disclosure is not limited to the exemplified embodiments. J '835 clearly teaches polypropylene in composition with the disclosed block copolymers and applicant claims polypropylene as one of the suitable polyolefin resin components (II). The mass ratio set forth in the instant claims is so broadly inclusive of innumerable compositions as to not be a distinguishing feature over the cited prior art.

### *Claim Rejections - 35 USC § 102/103*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-14 and 23-27 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by or, alternatively, under 35 U.S.C. 102(b) as being obvious over JP 11-060835, as disclosed in the translation filed by Applicant. J '835 discloses compositions for producing molded products. The compositions comprise an aromatic vinyl/hydrogenated diene block copolymer and a propylene resin. The propylene resin is described in paragraph [0015]. Electron beam curing is taught in paragraph [0021]. Styrene,  $\alpha$ -methyl styrene and alkyl-substituted styrenes, including p-methyl styrene and t-butyl styrene, and dienes, including butadiene and isoprene, are taught in paragraph [0017]. The mass ratio of block copolymer to propylene resin is taught in paragraph [0033]. The % by mass polymer block A in claim 25 is taught in paragraph [0011]. The number average molecular weight of claim 27 is taught in paragraph [0018]. J '835 discloses, in comparative Example 2, that a lower ratio of shear viscosity to elongation viscosity and a lower melt tension are obtained when the block copolymer is not crosslinked before or after molding.

The instant claims are drawn to a molded article obtained by molding the recited resin composition and exposing the molded resin to an active energy ray to crosslink the resin composition. The molded article comprises the crosslinked product of the copolymer block (I) and the polyolefin resin (II), both as defined in claim 1. The molded article would be expected to have the same properties whether the composition is crosslinked by exposure to radiation after

molding, as set forth in the instant claims, or by exposure to radiation before molding as taught by J '835, in the absence of evidence to the contrary. With respect to claims 11-14, although J '835 does not discuss adding a photoinitiator and exposure to ultraviolet radiation, the molded article instantly claimed would be expected to have the same properties when the composition is crosslinked by ultraviolet radiation in the presence of a photoinitiator and when crosslinked by electron beam radiation as taught by J '835, in the absence of evidence to the contrary.

The comparative data in the Suzuki Declaration filed 01-09-2008 has been considered. The comparative data shows that a molded article obtained by molding the article and subsequently subjecting the article to crosslinking has significantly different properties than a molded article obtained by crosslinking the same composition and then molding the crosslinked composition. However, the data presented is not persuasive of patentability for the following reasons. The block copolymer in both the Example according to the invention and the Comparative Example is a hydrogenated product of poly(p-methylstyrene/styrene)-poly(isoprene/butadiene)-poly(p-methylstyrene/styrene) triblock copolymer. Therefor, if applicant maintains that the comparative example is representative of the disclosure of J '835, then applicant admits on the record that J '835 discloses a block copolymer derived from the same monomer units as set forth in the instant claims. However, the molded article in the Suzuki Declaration prepared by crosslinking followed by molding is not representative of the teaching of J '835 closest to the instant claims. The reason is that JP '835 discloses compositions comprising polypropylene while the comparative Example contains polyethylene, which is not taught by J '835. It is known in the art that the effect of radiation on polyethylene does not predict the effect of radiation on polypropylene. Therefor, the comparative data relied upon is not

representative of the cited prior art. There is no evidence of record of record to show that significantly different properties result when the polyolefin resin in the instant invention is polypropylene instead of polyethylene, as taught by J '835, and the block copolymer and polypropylene are mixed and molded before radiation crosslinking. It is known in the art that polypropylene and polyethylene have significantly different properties, thus what is obtained by exposure of polyethylene to radiation is not considered to be equivalent to and/or does not necessarily predict what would be obtained with polypropylene. No comparative data has been presented to show unexpected and significantly different properties for compositions comprising a photoinitiator and exposed to ultraviolet radiation as set forth in the instant claims compared with molded articles obtained as taught by J '835.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Scidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB  
4/1/2010

/Susan W Berman/  
Primary Examiner  
Art Unit 1796